American Rare Earths Limited

(ASX:ARR)

An Australian exploration company focused on the discovery & development of Rare Earths and Critical mineral resources in North America and Australia

Commodity Exposure

Rare Earth Elements, in the USA

Heavy Mineral Sands and Cobalt in Australia

Directors & Management

Creagh O'Connor
Non-Executive Chairman
Keith Middleton
Managing Director
Geoff Hill
Non-Executive Director
Vice Chairman
Denis Geldard
Non-Executive Director
Jim Guilinger
Chief Technical Advisor
Wayne Kernaghan
Company Secretary

Capital Structure

Ordinary Shares on Issue 338,058,326

American Rare Earths Limited

ARBN 003 453 503

Head Office

Suite 706 Level 7, 89 York St,

Sydney NSW 2000

GPO BOX 1546, Sydney NSW 2001

Tel +61 2 8054 9779

Email info@americanrareearths.com.au

Web: https://americanrareearths.com.au/

2 March 2021

New higher grade Rare Earths & Scandium samples support strategy & pending drilling at key Arizona project

Highlights

- **Samples collected in Q4 2020 at ARR's wholly-owned La Paz rare earths project have a grade 47% higher than the av. previously reported JORC compliant resource estimate of Total Rare Earths Elements (TREE)**
- **Composited grade of new samples is 552ppm TREE**
- **32 samples were collected in La Paz's JORC Resource area and composited for metallurgical testing at the Saskatchewan Research Council facility in Canada**
- **Additional samples for metallurgical testing were collected to the project's southwest in newly acquired claim control areas**
- **Phase 3 of La Paz metallurgy work now underway**
- **Drill campaign preparation well advanced**
- **Project initiatives support President Biden's Executive Order for a review of ther US's Rare Earths supply chain**
- **The ARR project is aligned with US policy prioritising defending US National Security with a US-Critical mineral resource supply**

American Rare Earths Limited (ASX: "ARR") ("the Company") is pleased to provide the following update from its wholly owned US subsidiary, Western Rare Earths, on the developing La Paz Rare Earths Project in western Arizona.

Keith Middleton

Managing Director

This market announcement has been authorised for release to the market by the Board of American Rare Earths Limited.

This ASX announcement refers to information extracted from market announcements, which are available for viewing on ARR's website **https://americanrareearths.com.au**

ARR confirms it is not aware of any new information or data that materially affects the information included in the original market announcements, and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. ARR confirms that the form and context in which the Competent Person's findings presented have not been materially modified from the original market announcements.

Met Samples Grade 47% Higher Than the Average of the recent La Paz Resource Estimate

An updated sampling program was completed for ARR's La Paz Project area (Figure 1) that consisted of 1)a series of samples collected in the Resource area to be composited for metallurgical testing and 2) new sampling in areas of the claims outside of the Resource area that were not previously sampled.

In the Resource area, 32 samples were collected in Q4 2020 and composited for metallurgical testing at the Saskatchewan Research Council facility in Canada. Figure 2 shows the individual sample site locations with the designation "MET". The composited grade of the samples is 552ppm Total Rare Earths Elements ("TREE")- well above the cut-off grade of 300ppm TREE and 47% higher than the average of the resource estimate. Additionally, the composited grade of Scandium in these same samples was 16ppm. The met samples collected outside of the Resource Area (locations shown on Figures 3 and 4) are awaiting analysis.

Extensive surface sampling has been completed in the La Paz project area. Within the maiden resource area, a total of122 samples were collected in 2011 and 2019. Of these, 73 (60%) were above the 300ppm TREE cut-off.

Outside of the resource area, a total of 597 samples were collected in 2011, 2019 and 2020 (2020 samples are shown on the Figure 4 map with the designation "LP"). Of these, 182 samples (30%) were above the 300ppm TREE cut-off. The 182 samples above the cut-off and outside the resource area have been noted to be relatively concentrated in the areas to the southwest of the resource area (outlined in Figure 4). Sample sites and value coding are shown on the following series of maps (Figures 3 and 4). This may indicate the possibility that the ore body extends several kilometres with an area of alluvial cover over its centre as indicated by robust surface sample results similar to those in the maiden resource area. Alternatively, this pattern may represent the opportunity for a second, separate resource area. The upcoming drilling in areas southwest of the resource area are intended to assist the Company understand which, if either, of these options may exist.

Phase 3 of La Paz Metallurgy Work now Underway

The 32 samples from the resource area are being analysed and processed further by Saskatchewan Research Council with teamed guidance from WOOD PLC. This work program is being guided by the recommendations of WOOD PLC provided by the Company in Appendix D of the Technical Report [ASX Release: 24 November 2020]. As recommended, the metallurgy program will be undertaken in a sequential manner, initially to determine if the ore can be successfully upgraded into a viable concentrate for treating in the refinery, followed by batch refinery test work (acid bake, water leach and precipitation). This current work is specific to recommendation "5.1 Initial Program" of the WOOD PLC recommendations document.

Drill Campaign Preparation Well Advanced

The core drilling program preparations for La Paz are well advanced prior to final approvals. With the following goals achieved prior to the pending final approval, the program is "rig ready":

- Timberline Drilling Inc. has been engaged and a deposit paid;
- 9 core drill locations identified, 50% more than the original plan, to 2x the depth of the resource;
- Biological surveycompleted and accepted by regulatory officials;
- Archaeological survey completed and accepted by regulatory officials
- Permit applications have been approved by the Bureau of Land Management and Arizona State Land Department; and
- Drill pads have been marked and scraped level, ready for drill rig mobilisation to each site.

La Paz was first drilled in 2011 when the maiden resource was established along National Instrument

43-101 guidelines. In 2011, the resource was established via 195 extremely shallow percussion drill holes to 30 metres. In 2020, this data was reviewed to confirm the previous defined resource estimate of 128.2Mt @ 373.4ppm (0.037%) Total Rare Earths Elements ("TREE") for the Company's wholly owned La Paz Rare Earths Project in Arizona, USA [refer ASX Release: 11 November 2020].

Mr Jim Guilinger who reviewed the La Paz project is a Competent Person under JORC 2012 and NI 43-101 standards. He is also Head of Colorado-based independent consultants, World Industrial Minerals LLC.

La Paz Resource Estimate 2012 JORC				
	Mt	Grade (%)	Contained REE (kg)	Contained REE (Mlbs)
Inferred	112	0.037	37,586,080	83.3
Indicated	16.2	0.037	5,436,558	12.1
Total	128.2	0.037	43,022,638	95.4

Table 1: La Paz Rare Earths Project JORC 2012 Classified Mineral Resource Estimate

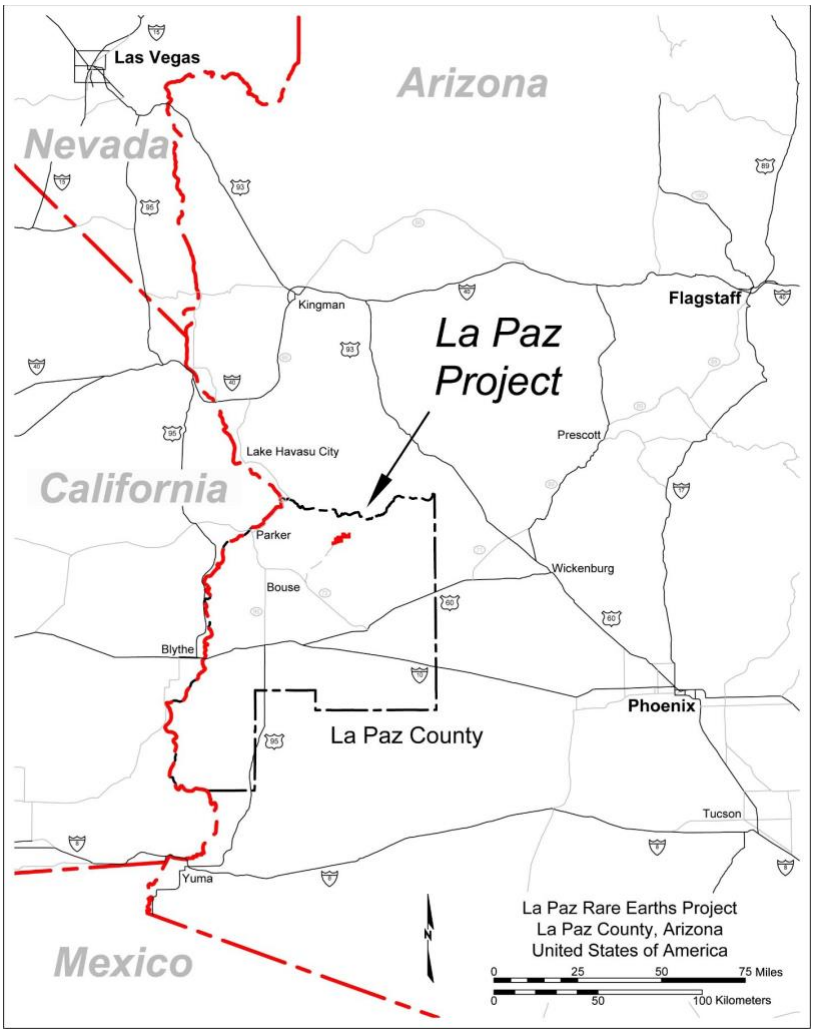

Figure 1: Location of La Paz Rare Earths Project in Arizona USA.

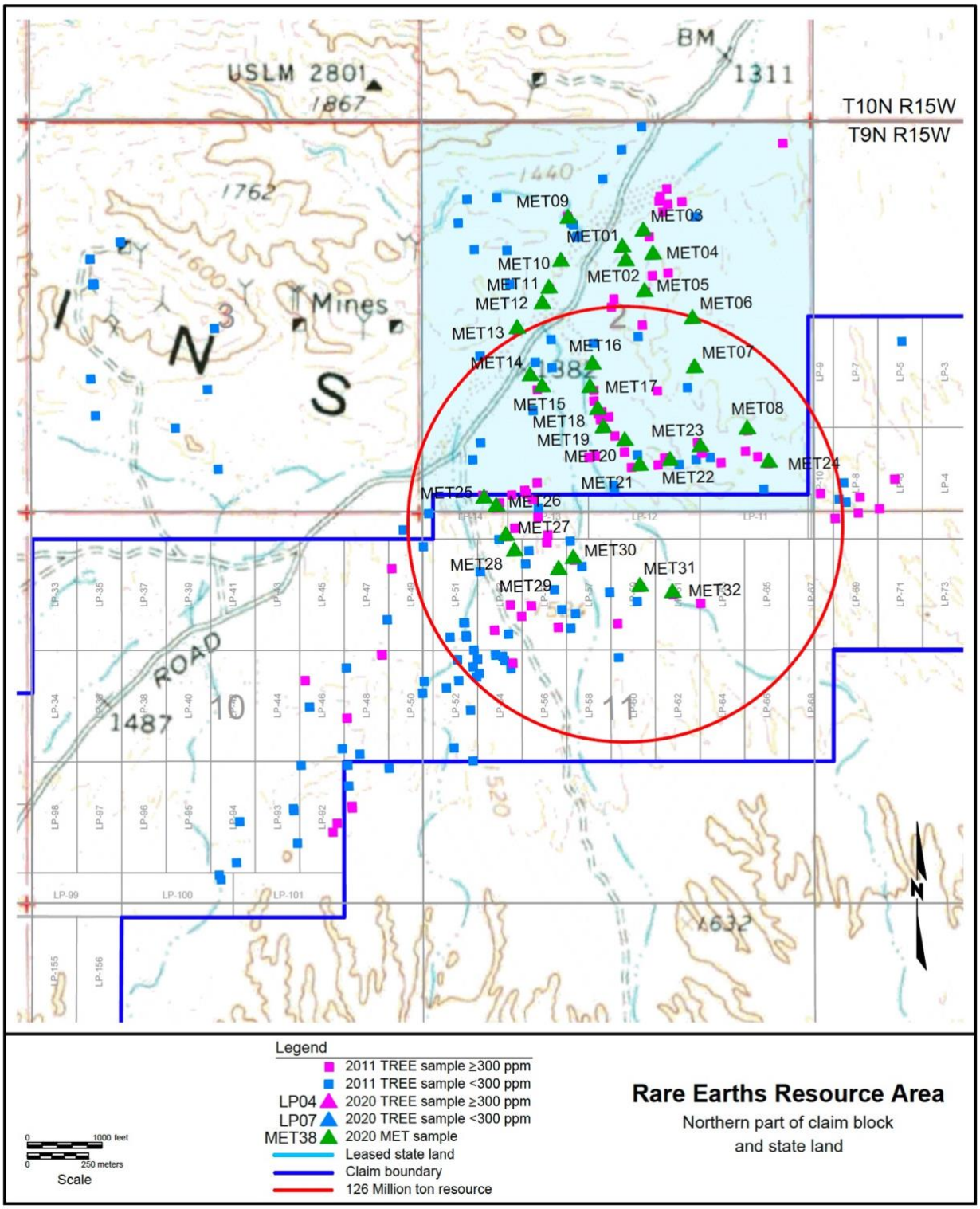

Figure 2: Location of Met Samples in La Paz Resource Area

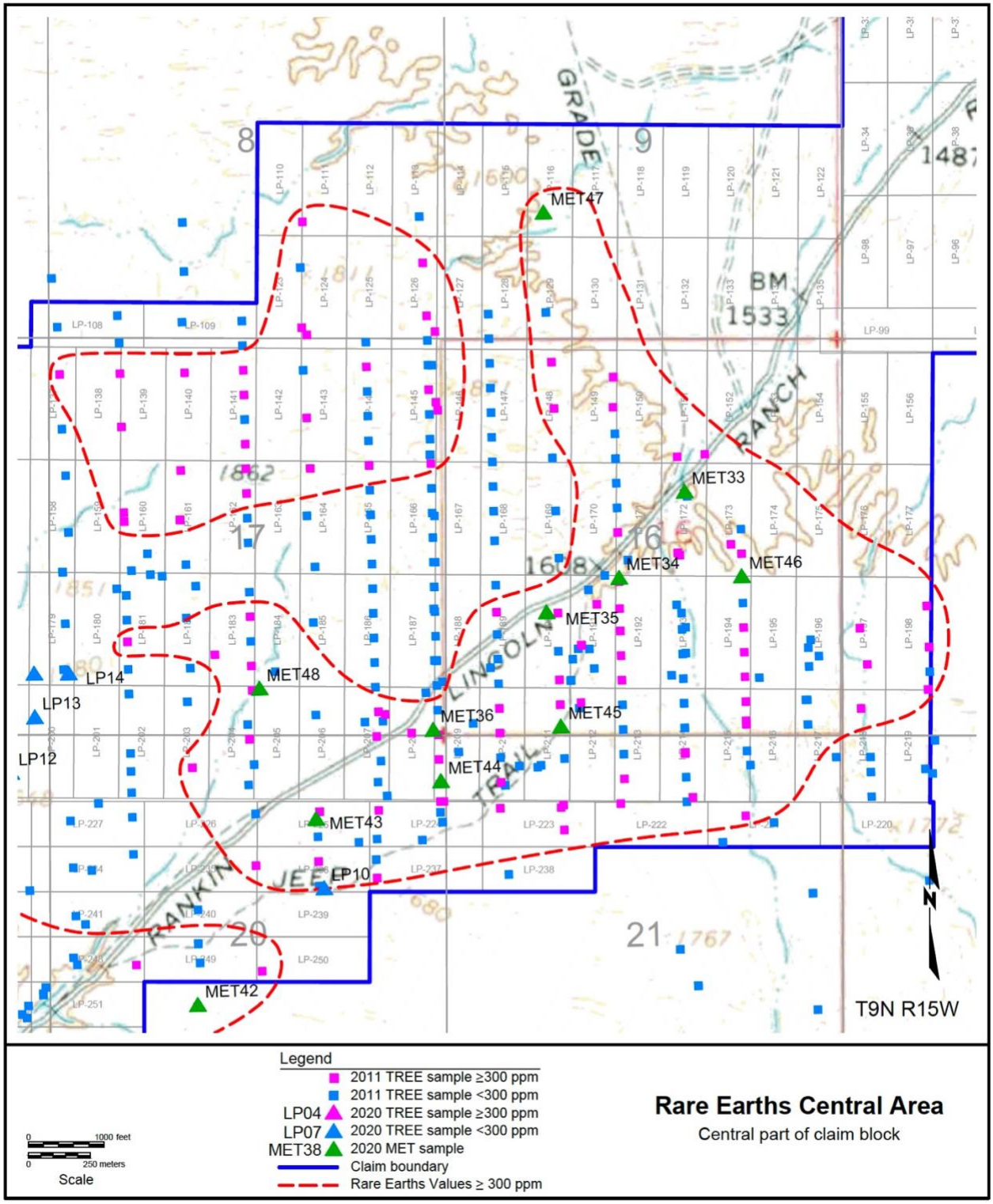

Figure 3: Location of Met Samples in La Paz Central Area

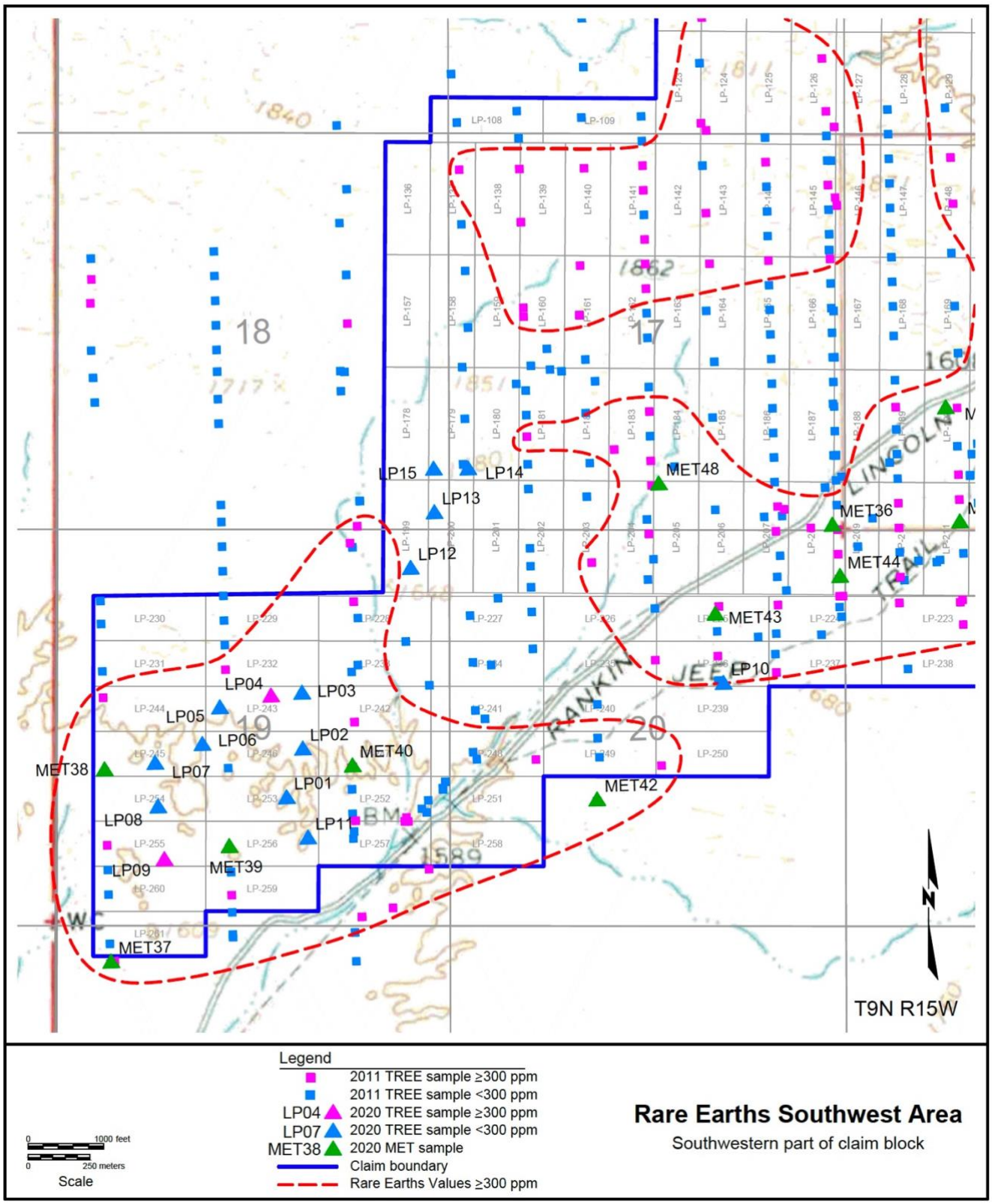

Figure 4: Location of Met Samples in La Paz Southwest Area

About American Rare Earths

American Rare Earths Limited (ASX: ARR) is the only Australian company listed on the ASX with assets in the growing rare earths metals sector of the United States of America, itself emerging as an alternative international supply chain to counter China's market dominance of a global rare earths market expected to balloon to US$20 billion by the mid-2020s. ARR owns 100% of the world-class La Paz rare earths project, located 170km northwest of Phoenix, Arizona. The project's highly shallow 2012 JORC resource (128.2Mt @ 373.4ppm (0.037%) Total Rare Earths Elements), is less than 30m below surface and is contained within just 525 acres of ARR's total La Paz footprint of 5,143 acres that points to potential resource upside. As a large tonnage, bulk deposit, La Paz is also potentially the largest, rare earths deposit in the USA and benefits from containing very low penalty elements such as radioactive thorium and uranium. ARR plans to deliver its first Preliminary Economic Assessment for La Paz late in 2021 and is working with leading USA research institutions to have La Paz's mineral profile incorporated into emerging US advanced rare earth processing technologies. ARR is also acquiring a second USA rare earths asset, the Laramie project in Wyoming. Transaction completion is due by mid-2021.

Competent Persons Statement: The information in this report that relates to Exploration Results is based on information compiled by Mr. Jim Guilinger. Mr. Guilinger is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc). Mr. Guilinger is Principal of independent consultants World Industrial Minerals LLC. Mr. Guilinger has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Guilinger consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

JORC Code – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• ***Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*** • ***Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*** • ***Aspects of the determination of mineralisation that are Material to the Public Report.*** • ***In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.***	Rock samples were collected by hand at the surface from in-situ outcrops. Grab samples are believed to be representative of the outcrops they came from. 1-2 kg rock samples were collected by a geologist, samples were broken using a rock hammer from outcrop. Rock samples were crushed in the laboratory and pulverized before analysis
Drilling techniques	• ***Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).***	• No drilling
Drill sample recovery	• ***Method of recording and assessing core and chip sample recoveries and results assessed.*** • ***Measures taken to maximise sample recovery and ensure representative nature of the samples.***	• No drilling

Criteria	JORC Code explanation	Commentary
	• ***Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.***	
Logging	• ***Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*** • ***Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.*** • ***The total length and percentage of the relevant intersections logged.***	Rock samples were geologically described Qualitative logging No drilling
Sub-sampling techniques and sample preparation	• ***If core, whether cut or sawn and whether quarter, half or all core taken.*** • ***If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*** • ***For all sample types, the nature, quality and appropriateness of the sample preparation technique.*** • ***Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*** • ***Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.*** • ***Whether sample sizes are appropriate to the grain size of the material being sampled.***	No drilling No Drilling Reconnaissance samples were analysed at ALS Laboratories in Reno Nevada, the samples were crushed, pulverised and assayed by ICP-ME and MS61r for REE. Metallurgical samples were collected and sent to a metallurgical lab for compositing and testing ~2kg of rock was crushed and pulverised and a subsample was taken in the laboratory and sent for analysis. Sampling was selective and based on geological observations. Each sample was 1kg – 2 kg in weight which is appropriate to test for the grain size of the material.
Quality of assay data and laboratory tests	• ***The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*** • ***For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*** • ***Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether***	The samples were crushed and assayed for 60 elements by fusion ICP-MS. The procedure will report near total results No geophysical tools used in this sampling program Internal laboratory standards were analysed with rock samples.

Criteria	JORC Code explanation	Commentary
	acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	
Verification of sampling and assaying	• ***The verification of significant intersections by either independent or alternative company personnel.*** • ***The use of twinned holes.*** • ***Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*** • ***Discuss any adjustment to assay data.***	Consulting company personnel have observed the assayed samples No drilling Field data were all recorded in field notebooks and sample record books and then entered into a digital database No adjustments were made.
Location of data points	• ***Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*** • ***Specification of the grid system used.*** • ***Quality and adequacy of topographic control.***	Sample location is based on GPS coordinates +/-5m. NAD83 / UTM zone 12N Topography control is +/-10m.
Data spacing and distribution	• ***Data spacing for reporting of Exploration Results.*** • ***Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*** • ***Whether sample compositing has been applied.***	All sample sites are shown on Figures. The data alone will not be used to estimate mineral resource or ore reserve. No compositing applied for the reconnaissance samples. The samples collected for metallurgical testing were composited at the testing laboratory.
Orientation of data in relation to geological structure	• ***Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*** • ***If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.***	Rock samples were taken of selected outcrops that were considered representative of varying rock types. No drilling

Criteria	JORC Code explanation	Commentary
Sample security	• ***The measures taken to ensure sample security.***	The samples were kept in numbered bags until delivered to the laboratory
Audits or reviews	• ***The results of any audits or reviews of sampling techniques and data.***	Sampling techniques are consistent with industry standards.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• ***Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*** • ***The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.***	The La Paz Rare Earth Project is located within Federal Lode mining claims that have been claim staked and on the State of Arizona Exploration Permit License Area. As above. The staked mining claims and State Mineral Exploration License have no known impediment to future granting of exploitation rights provide appropriate permitting and bonding is completed.
Exploration done by other parties	• ***Acknowledgment and appraisal of exploration by other parties.***	American Rare Earths Ltd.'s consultant undertook rock sampling within the region as a follow up to a previously uranium exploration program by a different company.
Geology	• ***Deposit type, geological setting and style of mineralisation.***	The deposit consists of REE's hosted in allanite primarily that occurs in gneisses, granodiorite and an altered cataclastite.

Drill hole Information	• ***A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:***
	  ○ ***easting and northing of the drill hole collar***
	  ○ ***elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar***
	  ○ ***dip and azimuth of the hole***
	  ○ ***down hole length and interception depth***
	  ○ ***hole length.***
	• ***If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.***
		No drilling

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No high-grade cutting No aggregation used No metal equivalents used
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').*	No drilling No drilling No drilling
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Refer to descriptions and diagrams in body of text
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Summary of results reported in the body of the text
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Exploration trenching was recently completed and will be discussed in a separate report.
Further work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	A drilling program is planned. Refer to figures in the body of the report.